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| **Sent:** | Monday, February 25, 2008 11:57 AM |
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| **Subject:** | Weights |

Hi Julie, Chuck, and Cam

I heard from Kristen that the Worcester Lab is using ANSI/ASTM class 1 weights. If we only had analytical balances with 0.1 mg readability and 100 gram capacities, I think class 1 could have worked for us. However, we also have Mettler AB204 balances with 200 g capacities. ANSI Class 1 tolerance for this weight is 0.5mg. We generally need to be accurate to 1 mg and I'm assuming that is why we're using the four decimal place balance. We also need 1 mg accuracy for making the GC/MS qualitative standards. Troemner's rule of thumb suggests the weight tolerance to be at least 1/3 of the accuracy needed for the application (I've also seen one third the readability, but that doesn't seem right since ultraclass wouldn't even do the trick). The tolerance for the 200 gram weight should then be 1mg/3=0.3mg. The ultraclass has a 0.3mg tolerance for the 200g weight. In addition, these balances use a Mettler E2 200 gram weight for calibration with the 0.3 mg tolerance. We could take these out of circulation as a possible solution, but Betsy uses this balance for trafficking cases.

I can purchase the ultraclass weights (the 2 kg-1 mg set plus an individual 5kg) for just about the same money as a ANSI class 1( the complete  5kg-1mg set). For another $500-600 I can get the 5kg-1mg ultraclass set.

Let me know which you would like to purchase. I will be on vacation Wednesday-Friday.

Thanks
Peter